

FIG. 1

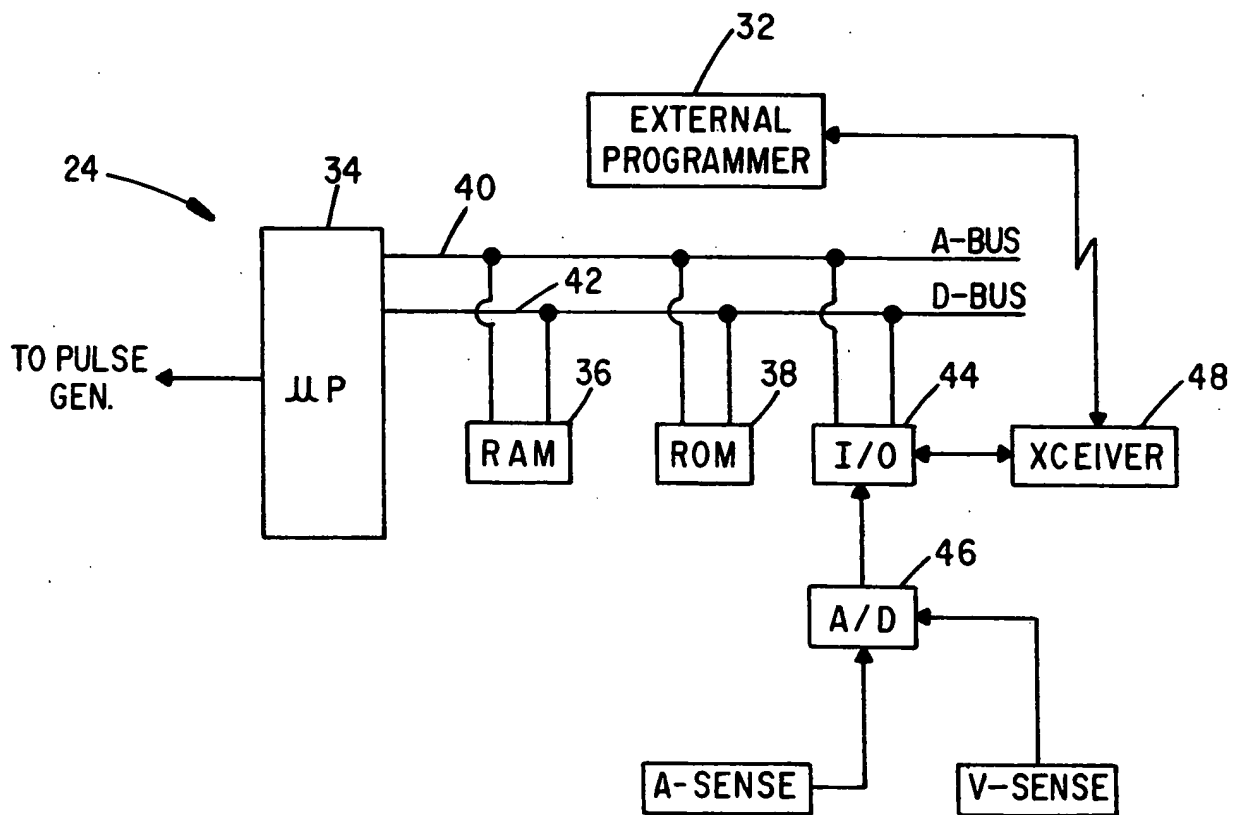


FIG. 2

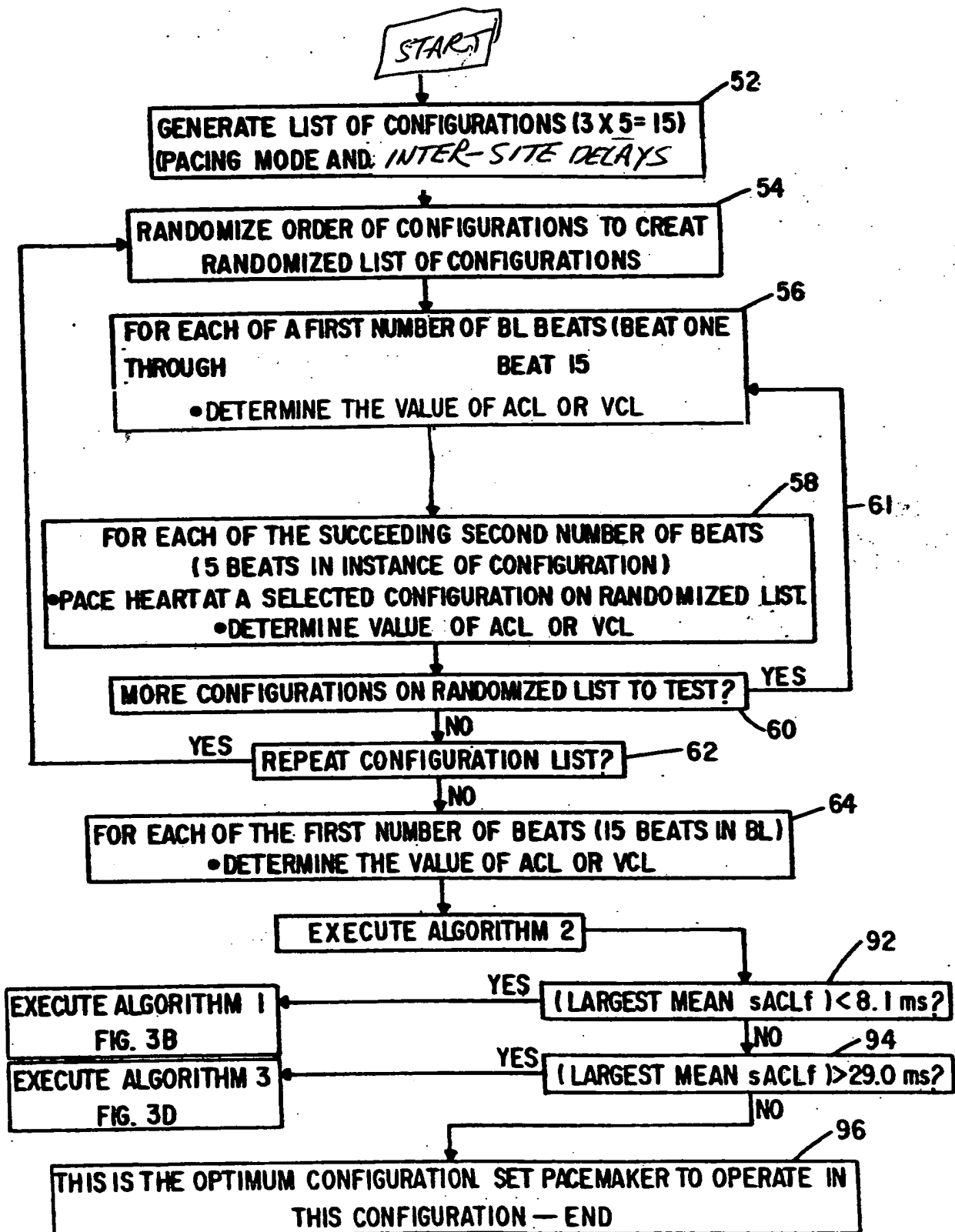


FIG. 3A

ALGORITHM 1

SMOOTH THE ARRAY OF ACLs OR VCLs WITH 3 POINT MOVING RECTANGLE WINDOW TO CREATE SMOOTHED ARRAY: sACL OR sVCL

FOR EACH CONFIGURATION INSTANCE:
IF ANY ABNORMAL BEATS (PVC, ETC.) FROM 8 BEATS BEFORE FIRST PACED BEAT TO 8 BEATS AFTER LAST PACED BEAT, THEN THIS IS DEFINED TO BE AN INVALID INSTANCE.
ELSE THIS IS DEFINED TO BE A VALID INSTANCE.

FOR EACH CONFIGURATION:
IF LESS THAN 3 VALID INSTANCES THEN THIS IS DEFINED TO BE AN INVALID CONFIGURATION. ELSE THIS IS DEFINED TO BE A VALID CONFIGURATION.

FOR EACH VALID CONFIGURATION VALID INSTANCE:

- DETERMINE MAX. VALUE AND MIN. VALUE OF sACL OR sVCL IN INTERVAL FROM 2 BEATS AFTER FIRST BEAT OF CONFIGURATION INSTANCE TO 7 BEATS AFTER FIRST BEAT OF CONFIGURATION INSTANCE.
- DETERMINE MEAN VALUE OF sACL OR sVCL IN INTERVAL FROM 2 BEATS BEFORE FIRST BEAT OF CONFIGURATION INSTANCE TO 2 BEATS AFTER FIRST BEAT OF CONFIGURATION INSTANCE.
- DETERMINE sACL OR sVCL FEATURE VALUE sACLf OR sVCLf: IS $MAGNITUDE (MAX.-MEAN) > MAGNITUDE (MIN.-MEAN)$?
YES: sACLf OR sVCLf = (MAX.-MEAN) — 70
NO: sACLf OR sVCLf = (MIN.-MEAN) — 72

FOR EACH OF THE VALID CONFIGURATIONS:

- DETERMINE MEAN OF sACLf OR sVCLf OVER THE VALID INSTANCES OF THE CONFIGURATION.

AMONG THE VALID CONFIGURATIONS:

- DETERMINE THE CONFIGURATION WITH LARGEST MEAN OF sACLf OR sVCLf.

THIS CONFIGURATION IS THE OPTIMUM CONFIGURATION. SET PACEMAKER TO OPERATE IN THIS OPTIMUM CONFIGURATION.

FIG. 3B

ALGORITHM 2

SMOOTH THE ARRAY OF ACLs OR VCLs WITH 11 POINT MOVING BLACKMAN WINDOW TO CREATE SMOOTHED ARRAY: sACL OR sVCL

FOR EACH CONFIGURATION INSTANCE:
IF ANY ABNORMAL BEATS (PVC, ETC.) FROM 8 BEATS BEFORE FIRST PACED BEAT TO 8 BEATS AFTER LAST PACED BEAT, THEN THIS IS DEFINED TO BE AN INVALID INSTANCE, ELSE THIS IS DEFINED TO BE A VALID INSTANCE.

FOR EACH CONFIGURATION:
IF LESS THAN 3 VALID INSTANCES THEN THIS IS DEFINED TO BE AN INVALID CONFIGURATION, ELSE THIS IS DEFINED TO BE A VALID CONFIGURATION.

FOR EACH VALID CONFIGURATION VALID INSTANCE:

- DETERMINE MAX. VALUE OF sACL OR sVCL IN INTERVAL FROM 2 BEATS AFTER FIRST BEAT OF CONFIGURATION INSTANCE. TO 8 BEATS AFTER FIRST BEAT OF CONFIGURATION INSTANCE.
- DETERMINE MIN. VALUE OF sACL OR sVCL IN INTERVAL FROM 3 BEATS BEFORE FIRST BEAT OF CONFIGURATION INSTANCE TO BEAT WITH MAX. VALUE.
- DETERMINE sACL OR sVCL FEATURE VALUE sACLf OR sVCLf: $sACLf \text{ OR } sVCLf = \text{MAX.} - \text{MIN.}$

FOR EACH OF THE VALID CONFIGURATIONS:

- DETERMINE MEAN OF sACLf OR sVCLf OVER THE VALID INSTANCES.

AMONG THE VALID CONFIGURATIONS:

- DETERMINE CONFIGURATION WITH LARGEST MEAN sACLf OR sVCLf.

AMONG THE VALID INSTANCES OF THIS VALID CONFIGURATION:

- DETERMINE MEDIAN VALUE OF sACLf OR sVCLf.
- DETERMINE MAX. VALUE OF sACLf OR sVCLf. IS $(\text{MAX.} / \text{MEDIAN} - 1) < \text{PREDEFINED THRESHOLD}$?

NO

YES

THIS IS THE CANDIDATE OPTIMUM CONFIGURATION

THE INSTANCE WITH THE MAX. VALUE OF sACLf OR sVCLf IS DEFINED TO BE AN INVALID INSTANCE. IF THIS VALID CONFIGURATION NOW HAS < 3 VALID INSTANCES, THEN IT IS DEFINED TO BE AN INVALID CONFIGURATION. ELSE- CALCULATE MEAN OF VALUES OF VALID INSTANCES OF THIS VALID CONFIGURATION.

FIG. 3C

ALGORITHM 3

SMOOTH THE ARRAY OF ACLs OR VCLs WITH 11 POINT MOVING BLACKMAN WINDOW TO CREATE SMOOTHED ARRAY: sACL OR sVCL

FOR EACH CONFIGURATION INSTANCE:
IF ANY ABNORMAL BEATS (PVC, ETC.) FROM 8 BEATS BEFORE FIRST Paced BEAT TO 8 BEATS AFTER LAST Paced BEAT, THEN THIS IS DEFINED TO BE AN INVALID INSTANCE, ELSE THIS IS DEFINED TO BE A VALID INSTANCE.

FOR EACH CONFIGURATION:
IF LESS THAN 3 VALID INSTANCES THEN THIS IS DEFINED TO BE AN INVALID CONFIGURATION, ELSE THIS IS DEFINED TO BE A VALID CONFIGURATION.

FOR EACH VALID CONFIGURATION VALID INSTANCE:

- DETERMINE MAX. VALUE OF sACL OR sVCL IN INTERVAL FROM 1 BEAT AFTER FIRST BEAT OF CONFIGURATION INSTANCE. TO 8 BEATS AFTER FIRST BEAT OF CONFIGURATION INSTANCE.
- DETERMINE MIN. VALUE OF sACL OR sVCL IN INTERVAL FROM 3 BEATS BEFORE FIRST BEAT OF CONFIGURATION INSTANCE TO BEAT WITH MAX. VALUE.
- DETERMINE sACL OR sVCL FEATURE VALUE sACLf OR sVCLf: $sACLf$ OR $sVCLf = \text{MAX.} - \text{MIN.}$

FOR EACH OF THE VALID CONFIGURATIONS:

- DETERMINE MEAN OF sACLf OR sVCLf OVER THE VALID INSTANCES.

AMONG THE VALID CONFIGURATIONS:

- DETERMINE CONFIGURATION WITH LARGEST MEAN sACLf OR sVCLf.

AMONG THE VALID INSTANCES OF THIS VALID CONFIGURATION:

- DETERMINE MEDIAN VALUE OF sACLf OR sVCLf.
- DETERMINE MAX. VALUE OF sACLf OR sVCLf. IS $(\text{MAX.} / \text{MEDIAN} - 1) < \text{PREDEFINED THRESHOLD}$?

YES

THIS IS THE OPTIMUM CONFIGURATION. SET PACEMAKE TO OPERATE IN THIS CONFIGURATION.

FIG. 3D

004040 004040 004040

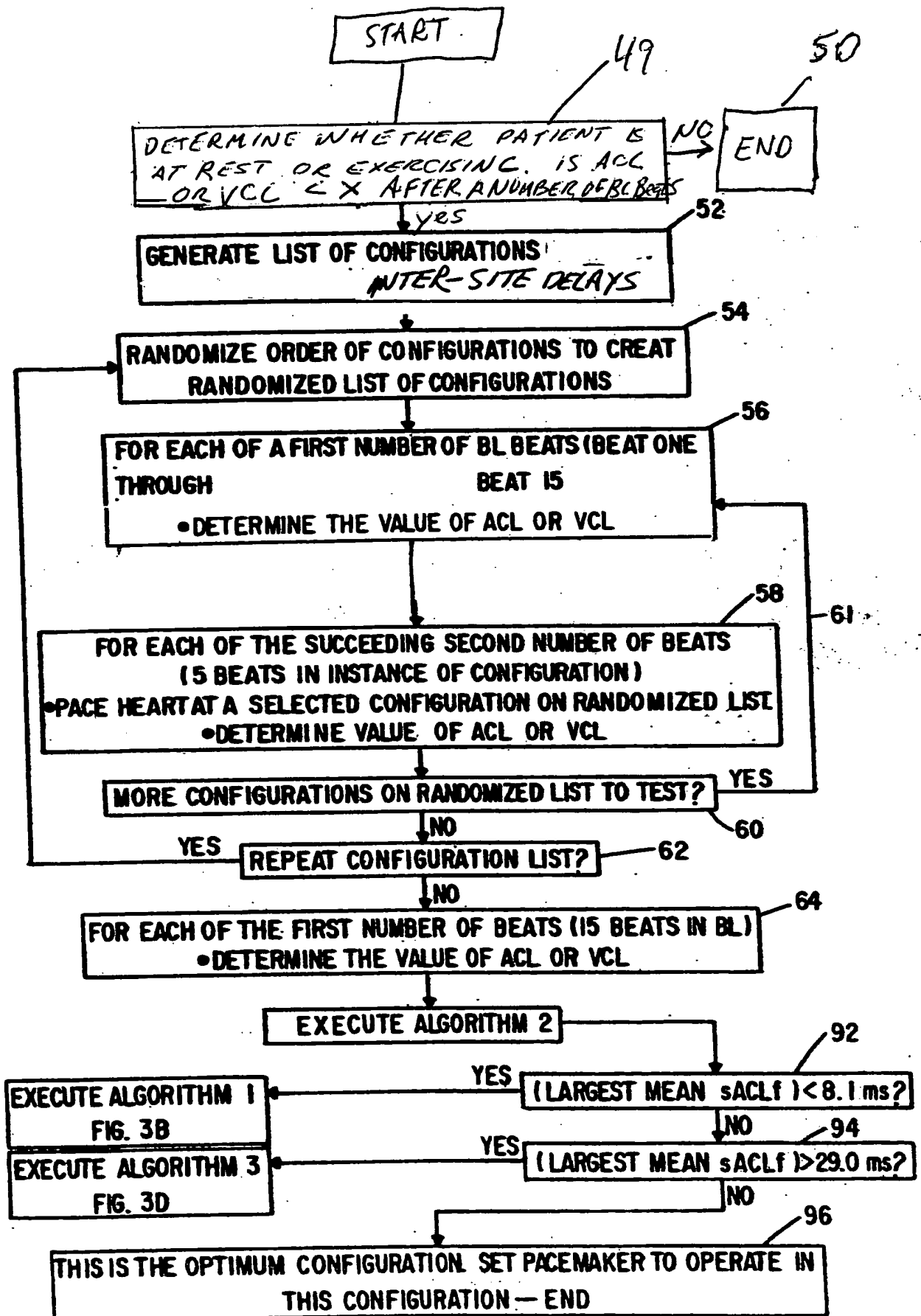


FIG. 3E

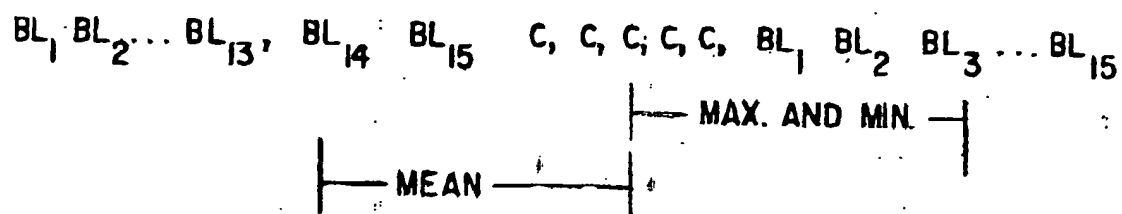


FIG. 4

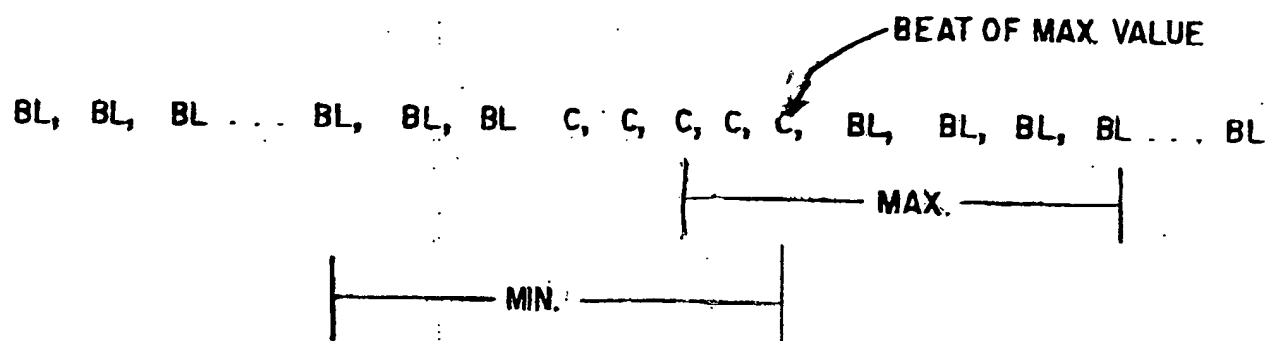


FIG. 5

002040 96354560

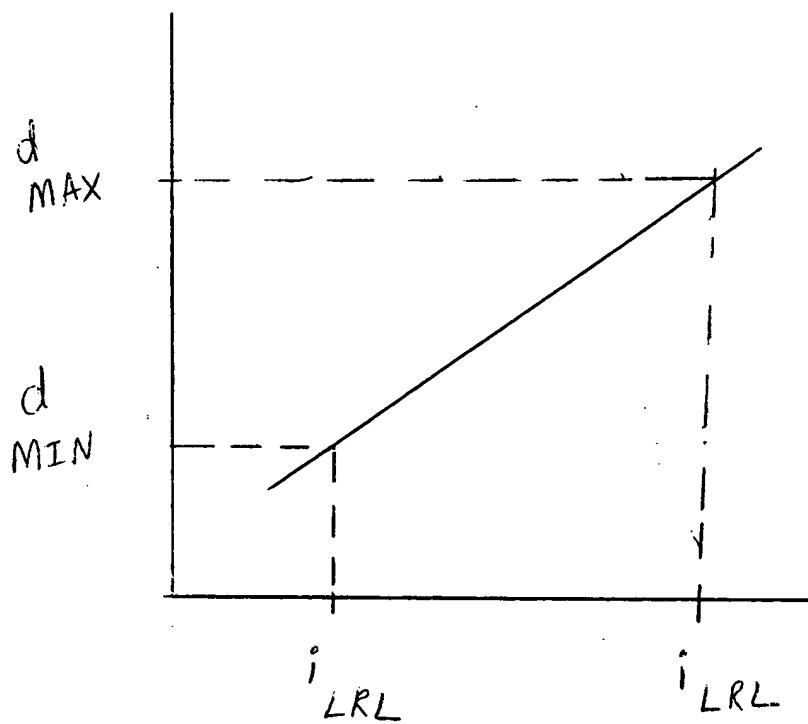
[illegible]

Fig 6